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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,344	02/07/2002	Tomoyuki Matsuyama	105218.01	7336

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Alexandria, VA 22320

EXAMINER

FULLER, RODNEY EVAN

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 11/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/067,344

Applicant(s)

MATSUYAMA ET AL.

Examiner

Rodney E Fuller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-63 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/487,996.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2, 12-24 and 50-55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 2 recites the limitation "...degradation of optical characteristic unable to be corrected by said first adjusting step" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. In other words, it is unclear what optical characteristics were not corrected by the first adjusting step.

4. Claims 12-24 depend from claim 2 and therefore include the deficiencies of claim 2.

5. In claim 50, lines 6-7, the limitation "...improving optical capability of projection system" is vague and renders the claim indefinite.

6. In claim 50, lines 8, the limitation "...adjusting illumination characteristic" is vague and renders the claim indefinite.

7. Claims 51-55 depend from claim 50 and therefore include the deficiencies of claim 50.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-63 rejected under 35 U.S.C. 102(b) as being anticipated by Ohta, et al. (US 5,105,075).

Ohta (US 5,105,075) discloses all the structure set forth in the claims. Regarding claims 1, 25 and 50-52, 56, 58, 60 and 62, Ohta (US 5,105,075) discloses "...a providing step for providing a projection system (Fig. 3, ref.# 6, 7) projecting and exposing an image of a predetermined pattern formed on a reticle (Fig. 3, ref.# 1) to a photosensitive substrate (Fig. 3, ref.# 9); a setting step for setting a correcting member (column 1, lines 40-66) correcting residual aberration in said projection system at a predetermined position between reticle setting position where said reticle is set and a substrate setting position where said photosensitive substrate is set; and a correcting step (column 1, lines 40-66) for correcting degradation of optical characteristic of said projection system caused by setting said correction member at said predetermined position; where said correcting step includes a first adjusting step for adjusting at least one of said reticle setting position and said substrate setting position (column 1, lines 61-66)."

Regarding claims 2 and 26, Ohta (US 5,105,075) discloses "...wherein said correcting step further includes a second adjusting step for adjusting said projection system for correcting degradation of said optical characteristics unable to be corrected by said first adjusting step." (column 1, lines 40 – column 2, line 12).

Regarding claims 3, 12, 13, 17, 27, 28, 36-39 and 46, Ohta (US 5,105,075) discloses "...wherein said correcting step further includes a first calculating step, prior to said setting step, for calculating an adjusting amount of at least one of said reticle setting position and said

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substrate setting position in order to correct degradation of said optical characteristic produced in accordance with the thickness of said correction member, and said first adjusting step includes a step for adjusting at least one of said reticle setting position and said substrate setting position based on first calculated information obtained in said first calculating step.” (Column 9, line 50 – column 10, line 11).

Regarding dependent claims 7-11, 16, 18, 20, 22, 31-35, 40, 41, 43, 45, 49 and 53-55, each claim includes an associated step of “...preparing an exposure apparatus manufactured by using the method for manufacturing an exposure apparatus” as set forth in associated parent claims (i.e., claims 1-6, 12, 17, 19, 25-30, 39, 42, 44, 46 and 50-52) along with steps of “...setting a reticle at said reticle setting position,” “...setting a photosensitive substrate at said substrate setting position,” “...exposing a pattern image of said reticle to said photosensitive substrate by using a projection system of an exposure apparatus prepared in said preparing step,” and “...developing said photosensitive substrate exposed by said exposing step.” The step of reticle setting, substrate setting, exposing, and developing are inherent steps utilized in the operation of the apparatus set forth in Ohta (US 5,105,075) as well as most typical photolithography systems.

Regarding claims 25, 42, 44, 47, 48 and 50 Ohta (US 5,105,075) discloses “...a measuring step for measuring residual aberration in said projection system (column 2, lines 54-68).

Regarding claims 57, 59, 61 and 63, the claimed exposure apparatus and projection system product would be inherent result of performing the methods set forth in claims 56, 60, 58 and 62.

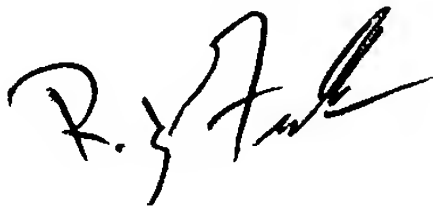
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Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney Fuller whose telephone number is (703) 306-5641. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams, can be reached on (703) 308-2847.

Rodney Fuller
Primary Examiner

A handwritten signature in black ink, appearing to read 'R. Fuller', is written over the printed name of the examiner.

November 4, 2002